

REMARKS

Claims 1-28 are pending in the present application. Claims 29-30 were withdrawn from consideration in response to a Restriction Requirement.

Claim Rejections Under 35 U.S.C. §§ 102(b) and 103(a)

Claims 22, 24, and 26-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,506,101 to Morris (“Morris”) in view of U.S. Patent Application Publication No. 2003/0037943 A1 to Jensen et al. (“Jensen”). Claims 1, 3-8, 11-12, 22-24, 27 and 28 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. 5,175,613 to Barker, III et al. (“Barker”) in view of U.S. Patent No. 5,717,577 to Mendolia et al. (“Mendolia”). Claims 1-8, 10-17, 19-21 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Jensen and in further view of U.S. Patent Application Publication No. 2003/0025180 to Alcoe et al. (“Alcoe”). Claims 9 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Jensen in view of Alcoe and further in view of U.S. 5,749,586 to Abe et al. (“Abe”). Claims 9 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Barker, Mendolia and in further view of Abe. Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Jensen in view of Abe.

First, with respect to the rejection under 35 U.S.C. § 102(b), it is required that a single reference disclose each and every feature of the rejected claim. Considering the admission on page 5 that the Baker [Barker] reference fails to show a feature of the claims, it is believed that this rejection was in error and was meant to be a rejection of the listed claims under 35 U.S.C. § 103(a).

Embodiments of the present invention pertain to a gasket made of a lossy material that is placed around a die, microprocessor, etc., that protects the die from electrostatic discharge (ESD) pulses. The Morris reference refers to a radio-frequency shield that protects against electromagnetic waves. The Office Action maintains that “it is well [known] in the art that a gasket protecting from electromagnetic signal can also protect from electrostatic discharge pulse.” Applicant respectfully disagrees. A electromagnetic wave and an electrostatic discharge are fundamentally different phenomena of nature. Looking at Col. 4, lines 47-62, Morris suggests using “loaded” silicone rubber compounds from a company called Chomerics. A review of CHO-SEAL® and CHO-SIL® conductive elastomer gaskets from the Chomerics website shows a volume resistivity on the order of to 2×10^{-3} to 5 ohm-cm. Such a material is not sufficient for providing ESD protection. Note that as described in the present application (see page 9), the ASTM D257-90 standard describes a material as “static dissipative” when its volume resistivity is greater than 10^2 ohm cm and “conductive” when its volume resistivity is less than 10^2 ohm cm. Clearly, the Chomerics EMI shielding gaskets are well into the “conductive” range. Accordingly, Morris neither teaches nor suggests supplying a gasket for ESD protection.

Moreover, the Office Action appears to admit that ESD protection is not shown in the Morris reference. Instead, the Office Action states that it is “well [known] in the art that a gasket protecting from electromagnetic signal can also protect from electrostatic discharge pulse.” Since the Office has the burden to make a *prima facie* case for an obviousness rejection, Applicant respectfully requests that a reference be cited that shows such a feature.

Jensen fails to make up for the deficiencies of Morris. Jensen refers to an EMI gasket that is perforated to make it more compressible (see the Abstract). The gasket of Jensen is used

for a computer chassis, and there is no suggestion for using the perforated EMI gasket of Jensen for a semiconductor die as recited in the pending claims. As with the Morris material, the Jensen material also does not provide protection from ESD pulses. An example material is the 74011 gasket from the Chomerics company. Again, from the Chomerics web-site, this is a Soft-Shield® 5000 product that has a surface resistivity of 0.1 ohm/sq. It is believed that such a resistivity would translate to a volume resistivity similar to the other gasket materials discussed in the Morris reference. Thus, the gasket of Jenson is to provide a conductive path between the outer part of the chassis and a grounding device.

Independent claims 1 and 22 were rejected as being unpatentable over Barker in view of Mendolia. Specifically, the Office Action refers to element 26 of Barker as being a “gasket of conductive material.” As stated previously, this component serves to electrically connect the heat sink 14 to a reference plane 18. To the extent that element 26 can be considered a “gasket,” as a conductor, it is not to surround the die to protect it from ESD pulses as recited in the claims. Instead it is providing a conductive connector for the heat-sink 14 to the base 12 as recited in the paragraphs provided in the Office Action. Mendolia fails to make up for the deficiencies of Barker. Again, the Office action equates electromagnetic radiation to electrostatic discharge pulses. Though the FCC may be interested in what electromagnetic radiation is emitted by a device, they are unconcerned with the effects of electrostatic discharge on the device. Accordingly, the arguments supplied above with respect to Morris apply equally to the combination of Barker and Mendolia. Mendolia says nothing about ESD and as with the other references there is no showing that the gasket has a volume resistivity between 10^2 and 10^9 ohm cm as recited in some of the dependent claims.

The Alcoe and Abe references fail to make up for the deficiencies of Morris, Jensen, Barker, and Mendolia references. The Office Action states that Alcoe “is cited for showing an EMI shielding for semiconductor chip carriers.” Again, EMI, or Electromagnetic Interference, is quite different from ESD (electrostatic discharge). Abe is non-analogous art in that it refers to a gasket for sanitary pumping. Packaging of semiconductors is quite different from pipe connections. There is absolutely no teaching in Abe to use the gasket described therein in a semiconductor package, and there is no disclosure in Morris, Barker, Jensen, or Mendolia suggesting the use of a gasket from sanitary pipe.

Applicant respectfully requests that the Examiner reconsider equating EMI protection to ESD protection. Impinging an electromagnet signal onto a electronic circuit die will not result in the transfer of thousands of volts of electricity, which is quite possible with an electrostatic discharge.

In view of the above, reconsideration and withdrawal of the rejection of claims 1-28 under 35 U.S.C. §§ 102(b) and 103(a) is respectfully requested.

CONCLUSION

The Applicant respectfully submits that this application is in condition for allowance. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (202) 220-4255 to discuss any matter concerning this application. The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,
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